

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA

GEO. M. MARTIN COMPANY, a California  
corporation, and THE MARTIN FAMILY  
TRUST – 1989,

Plaintiffs,

v.

ALLIANCE MACHINE SYSTEMS  
INTERNATIONAL, LLC, a Wyoming  
corporation,

Defendant.

No. C 07-00692 WHA

**CLAIM CONSTRUCTION ORDER**

**INTRODUCTION**

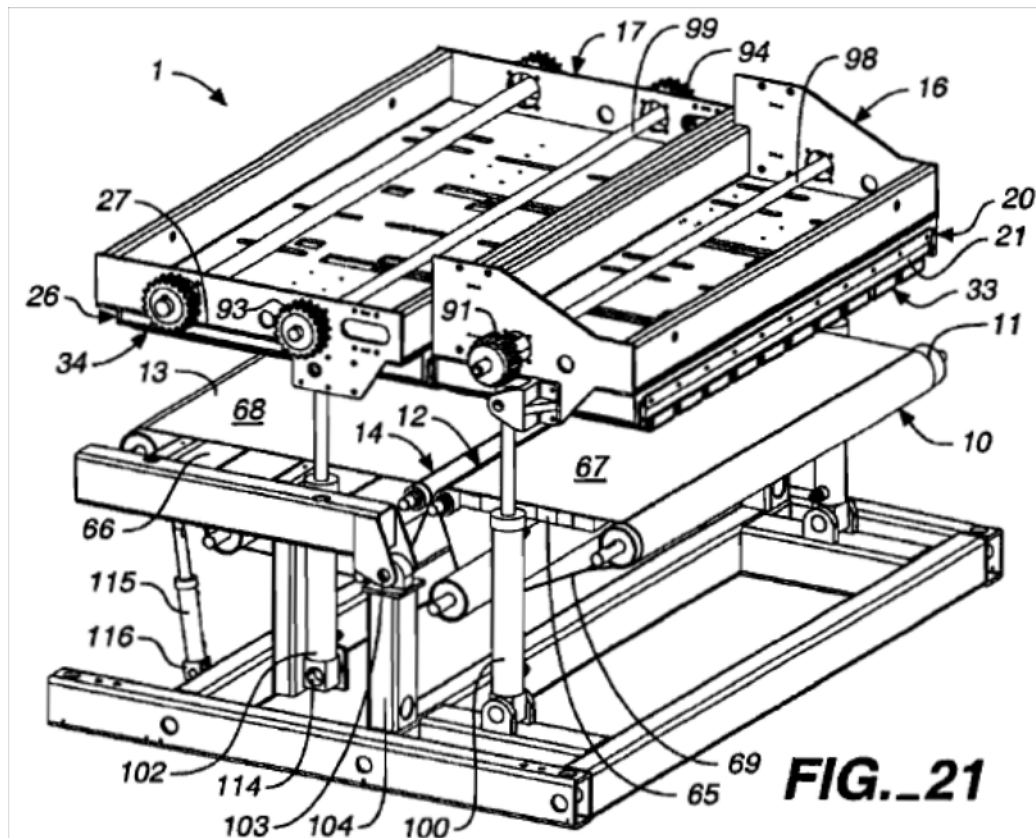
This is a claim construction order for United States Patent No. 6,655,566 B1. This order addresses the six phrases selected for construction by the parties. A technology tutorial, as well as a full round of briefing and a hearing, preceded this order.

**STATEMENT**

Plaintiff Martin Family Trust is the assignee of the '566 patent, and plaintiff George M. Martin Company practices the claimed method as the Trust's exclusive licensee. The patent itself is directed to an improvement to a bundle breaker. Bundle breakers are industrial machines that break stacked sheets of material, called "logs," along scored or weakened lines to form bundles (col. 1:5–15). These machines are frequently used in the corrugated cardboard

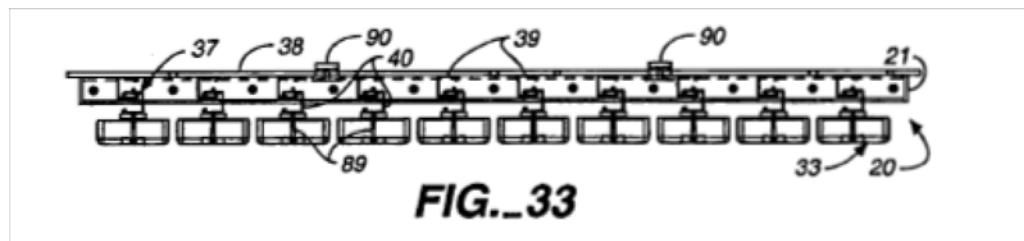
industry but can be used on a variety of materials such as corrugated paper or board, composition roofing shingles, and paper, plastic, or glass plates (col. 1:17-23).

The bundle breaker is used in an assembly line, usually near the end of the process. Before going into a bundle breaker, material such as corrugated board is cut into the desired shape and perforated using a rotary die cutter. The resulting pieces are stacked into logs, and the logs are moved into position within the bundle breaker. The stacks of logs are clamped into position, then they are bent so that all cardboard sheets in the log break along the same perforation. Some prior-art machines applied a downward shearing force to accomplish this, others pivoted the logs along a horizontal axis. A view of the patented bundle breaker is shown below. It separates bundles by sequentially tearing the sheets from top to bottom, as more and more bending pressure is applied.



To speed up the assembly line, it is desirable to break multiple logs simultaneously rather than one by one. Prior improvements to bundle breakers allowed them to separate several side-by-side logs into bundles simultaneously. One challenge in separating multiple logs is that the logs may be of different heights. As a result, a clamping mechanism, if uniform in height, may be too low and crush some of the logs, or too high and invite the logs to slip out of position. The industry refers to these problems as “lack of compliance” — the machine places too much force on the taller logs and not enough force on the shorter logs (col. 2:22–31). The '566 patent was directed to solving the compliance problem so that multiple logs of different heights can be broken simultaneously.

The '566 patent teaches an improvement to bundle breakers that uses a so-called compliance structure that allows the bundle breaker to clamp logs of different heights. The invention detects the heights of the logs and adjusts the clamp height accordingly. The compliance structure then uses a flexible member, coupled with a rigid member, to clamp the logs. The flexible member deforms in response to pressure so that it can exert more equal amounts of pressure on short and tall logs. In this way, the improved bundle breaker can clamp taller and shorter logs securely without damaging the resulting bundles and can break one and all simultaneously. The compliance structure and flexible member are shown below.



This action was filed on February 2, 2007, alleging that defendant Alliance Machine Systems International infringed the '566 patent. A technology tutorial was held on October 31, 2007, and a hearing was held on November 14, 2007. Trial is set for May 19, 2008.

**ANALYSIS****1. LEGAL STANDARD.**

Claim construction is a matter of law to be decided by a judge, not a jury. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996). Courts must give words in the claims their ordinary and customary meaning, which “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Where this ordinary and customary meaning is not immediately clear, courts must primarily look to intrinsic evidence (*i.e.*, the claims, the specification, and the prosecution history) to determine the meaning. *Id.* at 1314. With respect to the specification, although a difficult task, a court must distinguish “between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim.” *Id.* at 1323. The latter is not permissible.

Although courts have the discretion to consider extrinsic evidence, including expert and inventor testimony, dictionaries and scientific treatises, such evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* at 1317 (citation omitted). “The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* at 1315. “Nonetheless, any articulated definition of a claim term ultimately must relate to the infringement questions it was intended to answer.” *E-Pass Tech., Inc. v. 3Com Corp.*, 473 F.3d 1213, 1219 (Fed. Cir. 2007) (citing *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326 (Fed. Cir. 2006)).

**2. DISPUTED CLAIM TERMS AND PHRASES.**

Plaintiffs and defendant did not stipulate to any definitions prior to the hearing. The parties jointly selected six phrases for construction at this time. Those six phrases are: (1) “compliance structure;” (2) “fluid pressurized structure;” (3) “flexible member; (4) “pressure sealing engagement;” (5) “detection means;” and (6) “variation setting means.”

Parties agree that the final two limitations are means-plus-function limitations under 35 U.S.C. 112, ¶ 6.

**A. “Compliance Structure.”**

The disputed term “compliance structure” was recited in claims 1, 2, 3, 16, and 17 of the patent in suit. It recited (col. 16:50–17:19):

1. An improvement in a bundle breaker for separating bundles from a log having a generally planar top surface, said log including a plurality of sheets each having a generally planar top surface and each sheet is formed with at least one weakened line, said weakened lines are vertically aligned in said log forming a weakened plane in said log, said bundle breaker including a first conveyor for conveying said log and having an upstream end for receiving said log and a downstream end, and a second conveyor having an upstream end positioned immediately adjacent to said downstream end of said first conveyor providing a gap therebetween defining a bundle breaking plane, said bundle breaker including first clamp means mounted for vertical reciprocating movement above said first conveyor, and second clamp means mounted above said second conveyor and said second clamp means mounted for conjoint pivotal movement in relation to said bundle breaking plane for progressively breaking a bundle from said log along said weakened plane in said log, said improvement comprising:

- a. a first *compliance structure* mounted on said first clamp means including,

- (1) a first fluid pressurized structure having a first flexible member presenting a first engagement area for operative engagement with an upstream portion of said generally planar top surface of said log and on the upstream side of said weakened plane in said log; and

- b. a second *compliance structure* mounted on said second clamp means including,

- (1) a second fluid pressurized structure having a second flexible member presenting a second engagement with a downstream portion of said generally planar top surface of said log and on the downstream side of said weakened plane in said log.

Plaintiffs propose that “compliance structure” should mean “a structure that deforms to allow for a more uniform distribution of force.” Defendant disagrees. Originally it argued that it

1 should mean “a structure composed of deformable material that yields to changes in pressure  
2 and distributes substantially equal force across the structure.”

3 Defendant concedes that the points of disagreement are actually quite small. In its  
4 opposition brief, defendant departs from the claim construction it proposed in the pre-hearing  
5 statement. According to defendant, both sides agree that the compliance structure is made of  
6 deformable *material*, and defendant says that it is willing to accept the second portion of  
7 plaintiffs’ construction — “allow for a more uniform distribution of force” — and abandon its  
8 requirement that the force exerted by the compliance structure be substantially uniform.  
9 Defendant now proposes the construction “a structure composed of deformable *material* that  
10 yields to changes in pressure and allows for a more uniform distribution of force.” The word  
11 “material” cuts a large figure in defendant’s proposal.

12 Leaving aside the propriety of amending proposed constructions at this late stage,  
13 plaintiffs have a number of objections to this new construction. Looking at the claims, claim 1  
14 describes the compliance structure as having a “fluid pressurized structure having a first flexible  
15 member presenting a first engagement area for operative engagement” with the log  
16 (col. 17:6–10). Claim 3 recited further that “said first and second compliance structures  
17 respectively having first and second fluid pressurized structures for engaging a plurality of logs  
18 in side by side relation with at least one log having a height greater than at least one other log”  
19 (col. 17:30–34). These claims indicate that the compliance structure can deform in shape to put  
20 pressure on logs of different heights simultaneously. This is consistent with the invention’s  
21 stated purpose — modifying the clamp means to secure logs of different heights at the same  
22 time. The specification taught that “the present invention can reliably process a plurality of side  
23 by side logs . . . which are of substantially equal height . . . when one or any number of logs  
24 have a different height” (col. 8:21–25).

25 Defendants’ proposed construction, as originally expressed, would exclude one of the  
26 patentee’s preferred embodiments because it would require the *entire* compliance structure to be  
27  
28

made of deformable material.\* One preferred embodiment taught a compliance structure that was formed of a flexible member attached to the downward extension of an upper rigid wall (col. 8:51–60). Clearly, this preferred embodiment did not *entirely* consist of deformable material since the upper wall is rigid. Additionally, nothing in the specification *required* that the compliance structure be made entirely of deformable material. Defendant so conceded at the hearing.

Defendant then proposed that the construction should make clear that the compliance structure need not be made entirely of deformable material, so long as some of the structure was made of deformable material (like rubber). The problem is that although *something* within the compliance structure has to deform, it is far from clear that anything must be *made of* deformable *material*. A structure can be made of entirely of say, steel, and still be flexible, as in a tank tread that deforms to the earth. Even with the eleventh-hour caveat that the compliance structure need not be made entirely of deformable material, adding that requirement would not be helpful to the trier of fact. The functional construction proposed by plaintiffs is sufficient here to capture the need for the compliance structure to deform under pressure.

Accordingly, the term “compliance structure” is held to mean “a structure that deforms to allow a more uniform distribution of force.”

#### **B. “Fluid Pressurized Structure.”**

The term “fluid pressurized structure” appears in claims 1, 3, 5, 6, and 12 though 15. Claim 3 recited (col. 17:28–34):

3. An improvement in a bundle breaker as defined in claim 2 wherein:
  - a. said first and second compliance structures respectively having first and second *fluid pressurized structures* for engaging a plurality of logs in side by side relation with at least one log having a height greater than at least one other log.

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\* “A claim construction that excludes a preferred embodiment . . . is rarely, if ever, correct.” *Sandisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1285 (Fed. Cir. 2005) (internal quotations omitted).

1 For this term, plaintiffs contend that it should mean “a structure containing a liquid or a gas that  
2 applies force to the inside of the structure,” while defendant originally argued that the term  
3 should be construed as “a sealed structure inflated by liquid or gas, under pressure.”

4 Again, defendant gave up on the construction it proposed in the prehearing statement. It  
5 now proposes the construction “a sealed structure containing liquid or gas under greater than  
6 normal atmospheric pressure.” Given this new proposed construction, the parties have two  
7 points of disagreement — whether the structure must be sealed and whether the pressure within  
8 the structure must be greater than atmospheric pressure. As an initial matter, both sides agree  
9 that the definition of a “fluid” encompasses both liquids and gases.

10 Defendant first argues that the proper construction of the claim requires that the  
11 structure necessarily be sealed. By defendant’s reasoning, plaintiffs parse this phrase too finely  
12 — any proper construction would demand that the structure is pressurized by the fluid, so the  
13 structure must necessarily be “sealed” in some way. Plaintiffs in their opening brief used the  
14 example of a car tire as a fluid pressurized structure. In that example, the air pumped into the  
15 tire creates the seal by sealing the tire to the rim. The increased pressure inside the tire creates  
16 any seal in that system; there is no independent attachment to the rim. In response, defendant  
17 argues that the mere fact that a tire includes a valve for adding air, or increasing the pressure,  
18 indicates that the pressurized structure is sealed. This does not necessarily follow. Moreover,  
19 the specification indicated that fluid be allowed to flow into and out of the pressurized structure  
20 to change the pressure. The specification taught that “fluid pressure is increased or decreased  
21 through fluid pressure lines 105 and 106 . . . connected to fluid port 87 . . .” (col. 12:60–63).  
22 This indicated that the fluid pressurized structure by itself need not be sealed because the  
23 pressure within it changes. It does, however, need to be capable of being sealed when pressure  
24 is applied, much like plaintiffs’ tire example.

25 Plaintiffs and defendant also part company on the meaning of “pressurized.” Plaintiffs  
26 contend that it means only that the fluid inside the structure applies pressure to the inside of the  
27 structure. Defendant argues that this proposed construction is far too broad. It could even  
28 include, it says, a glass of water — the water being the fluid exerting pressure against the walls

of the glass — or even an empty glass where air puts pressure on the walls of the glass. The effect of adopting such a construction is not so dire as defendant argues. No one, skilled in the art or otherwise, would use a structure only at atmospheric pressure in a bundle breaker because it could not be used to apply pressure to another surface.

Defendant argues that the limitation should include the requirement that pressure in the pressurized structure should be greater than atmospheric pressure. The specification, as described above, indicated that fluid pressure can be increased or decreased. Given that the logs apply greater or lesser degrees of pressure to the pressurized structures to clamp the logs into place, this makes sense. In order to exert pressure on another surface, the pressure needs to be greater than atmospheric pressure.

This order holds that “fluid pressurized structure” means “a structure, capable of being sealed, containing a liquid or a gas that applies force greater than atmospheric pressure to the inside of the structure.”

#### C. “Flexible Member.”

The term “flexible member” appears in claims 1, 4, 5, and 7. Claim 4 recited (col. 17:35–39):

4. An improvement in a bundle breaker as defined in claim 1 wherein:
  - a. said first and second *flexible members* have a width extending substantially the width of said logs and in close proximity to said weakened plane in said log.

Plaintiffs propose that this term should mean “a structure that is capable of deformation in response to a force exerted upon it.” Defendant disagreed and originally proposed the definition “a pliable sheet of material.”

Once more, defendant has changed its proposed construction midstream. It now contends that the term should mean “a material that deforms in response to changes in force exerted upon it and is capable of recovering its size and shape after distortion.” As to the first part of the construction, plaintiffs and defendant disagree on whether the proper term is “material” or “structure.”

This order holds, however, that the plain language of the term itself is sufficient. Defining this phrase further is not necessary. At the hearing on this motion, both plaintiffs and defendant agreed. Accordingly, the phrase “flexible member” needs no further construction or clarification — it will have its commonly understood meaning.

**D. “Pressure Sealing Engagement.”**

The term “pressure sealing engagement” is recited in claim 5, which recited as follows (col. 17:41–57):

5. An improvement in a bundle breaker as defined in claim 1 comprising:
  - a. said first and second fluid pressurized structures are each formed with a generally planar upper rigid wall affixed to said first and second clamp means, and a depending perimeter wall affixed to and extending downwardly from said generally planar upper rigid wall of said first and second fluid pressurized structures;
  - b. said first and second flexible members are joined to said respective perimeter walls in *pressure sealing engagement* therewith; and
  - c. said first and second engagement areas of said first and second flexible members each present a substantially planar unbroken surface area with infinite indentation flexibility upon the application of forces to any portion of said substantially planar unbroken surface area.

At the hearing, the differences between plaintiffs’ and defendant’s constructions fell away, and the parties and the Court were able to agree on the following construction: “an interface between two surfaces that maintains liquid or gas pressure.” Accordingly, the term “pressure sealing engagement” is held to mean “an interface between two surfaces that maintains liquid or gas pressure.”

**E. “Detection Means.”**

Both parties agree that this term is a means-plus-function element subject to 35 U.S.C. 112, ¶ 6. “Construction of a means-plus-function limitation includes two steps. First, the court must determine the claimed function. Second, the court must identify the corresponding structure in the written description that performs the function.” *Applied Med. Res. Corp. v. U.S.*

1 *Surgical Corp.*, 484 F.3d 1324, 1332 (Fed. Cir. 2006). “If there is no structure in the  
 2 specification corresponding to the means-plus-function limitation in the claims, the claim will  
 3 be found invalid as indefinite.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950  
 4 (Fed. Cir. 2007).

5 The term “detection means” was recited in claims 16 and 17. Claim 16 recited  
 6 (col. 18:66–col. 19:12):

- 7 16. An improvement in a bundle breaker for shearing  
 8 progressively a bundle of sheets along a weakened plane  
 9 from a log, said bundle breaker including first and second  
 10 adjacent but longitudinally spaced upper and lower  
 11 clamping surfaces, the improvement comprising:
- 12 a. first and second compliance structures positioned  
 13 between said first and second, upper and lower  
 14 clamping surfaces;
  - 15 b. said first and second compliance structures including  
 16 first and second *detection means* detecting the  
 17 height of said log;
  - 18 c. variation setting means reducing the distance between  
 19 said upper and lower clamping surfaces a selected  
 20 increment after detecting the height of said log.

21 Plaintiffs and defendant agree that the claimed function for this term is “detecting the height of  
 22 said log.” This accords with the claims. As shown above, claim 16 recited a “detection means  
 23 detecting the height of said log.”

24 They part company as to the corresponding structure. Plaintiffs argue that the  
 25 corresponding structure disclosed by the patent includes electric eyes or a fluid pressurized  
 26 structure and flexible member. Defendant posited that the corresponding structure is a  
 27 computer capable of determining the height of a log by receiving input from a fluid pressure or  
 28 electrical sensor. Again defendant changed its position *vis-à-vis* its claim construction  
 statement. Now, defendant contends that the corresponding structures are electric eyes or a  
 fluid pressurized structure capable of detecting the height of a log. It has, in effect, gotten rid of  
 its requirement that a computer perform the function.

Here, defendant’s addition of the phrase “capable of detecting the height of a log” is  
 redundant. That requirement is already captured by the claimed function which both parties

1 agree is “detecting the height of said log.” Any corresponding structure must necessarily  
 2 perform this function, otherwise it cannot be a corresponding structure. If it does not perform  
 3 the function, the invention would run the risk of being invalid for a non-enabling disclosure.

4 Plaintiffs argue that the only structures clearly linked or associated with the claimed  
 5 function are electric eyes and the combination of the fluid pressurized structure and flexible  
 6 member. The specification explained that “[w]hile the preferred form of the invention uses  
 7 fluid pressure to detect the height of the logs, electrical means such as electric eyes could also  
 8 be used” (col. 15:62–65). It went on to teach that “the foregoing structure consisting of the first  
 9 flexible member 22, and the first fluid pressurized structure 21 has been referred to as a first  
 10 detection means 22” (col. 16:27–29). Thus, the detection means includes both the first flexible  
 11 member and the first detection means, as well as the other option of using electric eyes to detect  
 12 the height of the logs.

13 This order holds that the term “detection means” performs the function of “detecting the  
 14 height of said log,” and that the corresponding structures are “electric eyes or a fluid pressurized  
 15 structure and flexible member.”

#### 16 **F. “Variation Setting Means.”**

17 Finally, both parties agree that this disputed term is a means-plus-function element. The  
 18 term was recited in claims 16 and 17. Claim 17 recites as follows (col. 17:14–18:12):

19 17. An improvement in a bundle breaker as defined in claim 16  
 20 wherein:

- 21 a. said first and second compliance structures having a  
 width substantially engaging the width of a  
 plurality of logs in a row;
- 22 b. at least one of said logs in said row having a height  
 23 greater than said other logs;
- 24 c. said detection means is capable of detecting said log  
 having the greatest height; and
- 25 d. said *variation setting means* reducing the distance  
 26 between said upper and lower clamping surfaces a  
 selected increment after detecting said log of  
 27 greatest height.

28 Parties disagree on both the claimed function and the corresponding structures.

(1) *Claimed Function.*

Plaintiffs argue that the claimed function is “reducing the distance between said upper and lower clamping surfaces a selected increment.” Defendant asserts that the claimed function is “reducing the distance between said upper and lower clamping surfaces a selected increment after detecting the height of said log.” The parties disagree over whether the claimed function includes the temporal element of reducing the distance after the height of the log is detected.

Plaintiffs contend that the claimed function could not include defendant’s temporal element because that function has already been performed by the above disputed term, or “detection means.” Within the claim, the phrase “after detecting the height of said logs” explains the relationship of the variation setting means to the detection means. According to plaintiffs, it has no bearing on the actual function of the variation setting means.

Defendant argues that specification supports adding this requirement to the function, because it is included in the definition of the variation setting means. The specification taught (col. 10:60–65):

As to variation setting, i.e., how far to lower the first and second fluid pressure structures 21 and 27 after initial contact, the operator must select a variation setting distance which will apply the least pressure on the logs 4 and 4’ while still being able to achieve breaking of the logs 4 and 4’ into bundles.

Defendant is correct that this anticipates two different phases in clamping the logs — the first initial clamping, followed by the variation setting decreasing the distance after making initial contact. Indeed, given the language of the claim that the initial clamping must necessarily take place before the variation step. This does not indicate, however, that the *function* of this element contains a time component. The time component is a question that should be left to infringement analysis because it describes the relationship between two elements. Since the height detection and the initial clamping are two different steps, defendant’s proposed time element will not be read into this claim. Accordingly, the function of this element is “reducing the distance between said upper and lower clamping surfaces a selected increment.”

(2) *Corresponding Structure.*

As to corresponding structure, plaintiffs propose that it includes a computer or similar device. Defendant proposes that the corresponding structure includes a computer or other device capable of sensing an increase in pressure on the fluid pressurized structure resulting from an initial contact with a log, which continues to lower the fluid pressurized structure an additional preselected incremental distance in response to that detection. In effect, defendant attempts to import functionality into the corresponding structure.

A means-plus-function element in a claim represents a kind of tradeoff for the patentee. In exchange for the ability to claim a means without describing all structures that can perform it, the patentee is limited to those structures specified in the written description and equivalents thereof. *See O.I. Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997). “While the specification must contain structure linked to claimed means, this is not a high bar: ‘[a]ll one needs to do in order to obtain the benefit of [§ 112, ¶ 6] is to recite some structure corresponding to the means in the specification, as the statute states, so that one can readily ascertain what the claim means and comply with the particularity requirement of [§ 112,] ¶ 2.’” *Biomedino*, 490 F.3d at 950 (quoting *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed. Cir. 1999)).

It would be redundant to do as defendant directs and import functionality into the corresponding structure. To comply with the particularity requirement of 35 U.S.C. 112, ¶ 2, the corresponding structure necessarily has to be capable of performing the claimed function. If not, the claim would be invalid. Defendant’s concern raised at the hearing that the corresponding structure might not be sufficient to perform the claimed function is specious. The functionality is captured by the function portion of this construction, it need not be incorporated into the corresponding structure itself.

Plaintiffs identify a computer or similar device to perform the function. The specification taught that “the variation setting means (computer not shown) reducing the distance between the upper clamping surfaces 18 and 19 and lower clamping surfaces 67 and 68 a selected increment after detecting said log 4’ of greatest height may be a computer or other

1 device” (col. 16:44–48). Accordingly, the corresponding structure indicated by the  
2 specification is a computer or similar device. Whether this simple definition will be valid is a  
3 separate issue.

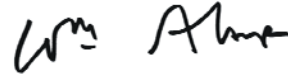
4 This order construes the entire phrase “variation setting means” to have a function of  
5 “computer or similar device capable of reducing the distance between said upper and lower  
6 clamping surfaces a selected increment.”

7 **CONCLUSION**

8 This claim construction order will govern for the remainder of this action.

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10 **IT IS SO ORDERED.**

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12 Dated: November 16, 2007.



13 WILLIAM ALSUP  
14 UNITED STATES DISTRICT JUDGE  
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